

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S4	148007	(high low limit) and flag\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:44
S6	0	S1 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:45
S2	426	design adj2 structure and physical adj2 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:45
S8	0	S1 and S7	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:46
S7	761	design adj2 structure and (physical electrical)adj2 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:46
S9	49	S1 and S3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:47
S11	50276	(fail pass failure) near5 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:52
S3	42234	(fail pass failure) near4 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:52

S10	8	S1 and S3 and S4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:53
S13	3173	test\$3 same defect\$3 same diagno\$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:56
S12	0	S1 and S3 and S4 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:56
S14	0	S6 and S3 and S4 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:57
S16	106	S13 and S11	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:58
S15	0	S13 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:58
S17	0	S13 and S11 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 11:59
S22	1	"4443096".PN.	USPAT; USOCR	OR	ON	2006/01/09 12:00
S21	1	"4353087".PN.	USPAT; USOCR	OR	ON	2006/01/09 12:00
S20	1	"4247203".PN.	USPAT; USOCR	OR	ON	2006/01/09 12:00
S19	1	"4233625".PN.	USPAT; USOCR	OR	ON	2006/01/09 12:00

S18	28	S13 and S11 and S4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:33
S24	58479	(yield fail failure) near5 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:34
S26	759	S23 and S24 and ( high low )	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:35
S25	820	S23 and S24	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:35
S27	74	S23 and S24 and ( high low ) and flag\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:36
S23	20963	test\$3 same defect\$3 same (chip circuit)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:41
S28	869	test\$3 and defect\$3 and scan adj2 chain	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:42
S30	29	test\$3 and defect\$3 and scan adj2 chain and ( yield fail failure) near4 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:43

S29	590	test\$3 and defect\$3 and scan adj2 chain and ( yield fail failure)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 13:43
S32	740	test\$3 same defect\$3 same (fail pass failure) same rate and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:27
S31	1368	test\$3 same defect\$3 same (fail pass failure) same rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:27
S33	714	test\$3 same defect\$3 same (fail pass failure) same rate and characteristic and ( minimum maximum high low)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:28
S34	250	test\$3 same defect\$3 same (fail pass failure) same rate and characteristic and ( minimum maximum high low) and yield	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:29
S35	4	test\$3 same defect\$3 same (fail pass failure) same rate and characteristic and ( minimum maximum high low) and yield and "716"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:30
S36	1	test\$3 same defect\$3 same (fail pass failure) same rate and characteristic and ( minimum maximum high low) and yield and "716"/\$.ccls. and flag\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 14:31
S37	244	714/732.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 16:48

S5	155	(high low limit) and flag\$3 and (( minimum or (at adj least)) near4 defect\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 16:52
S38	613	(high low limit) and ( check\$3 flag\$3) and (( minimum or (at adj least)) near4 defect\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 16:56
S39	2050	716/4.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 16:57
S40	9807	test\$3 same defect\$3 same ( fail failure diagnosis )	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:08
S42	421	test\$3 same defect\$3 same ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3) and high adj4 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:09
S41	5577	test\$3 same defect\$3 same ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:09
S43	305	test\$3 same defect\$3 same ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3) and high adj4 rate and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:10
S44	4	test\$3 same defect\$3 same ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3) and high adj4 rate and characteristic and scan adj2 chain	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:12

S45	82	test\$3 and defect\$3 and ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3) and high adj4 rate and characteristic and scan adj2 chain	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:15
S46	174	test\$3 and defect\$3 and ( fail failure diagnosis ) and (flag43 check\$3 mark\$3 sort\$3) and rate and characteristic and scan adj2 chain	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:30
S48	732	analy\$4 same ( failure defect\$3 ) near5 location same detect\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:36
S49	23	analy\$4 same ( failure defect\$3 ) near5 location same detect\$3 and "716"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/09 19:39
S50	1059	714/704.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:42
S55	108	S51 and S52 and S53	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:47
S54	210	S51 and S52	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:47
S52	35366	(detect\$3 locat\$3) same (defect\$3 fail failure) near5 ( layer level area location)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:51

S57	39593	(detect\$3 locat\$3 localiz\$3) same (defect\$3 fail failure) near5 ( layer level area location region)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:52
S56	38256	(detect\$3 locat\$3) same (defect\$3 fail failure) near5 ( layer level area location region)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:52
S59	29498	(characteristic ) same defect\$3 and (yield rate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:59
S58	128	S51 and S53 and S57	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:59
S53	60409	(characteristic structure) same defect\$3 and (yield rate)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 13:59
S60	88	S51 and S57 and S59	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 14:00
S51	1158	defect\$3 same (fail failure pass ) near4 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:03
S61	80	defect\$3 same (fail failure pass ) near4 rate and diagnosis	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:07

S62	72	defect\$3 same (fail failure pass ) near4 rate and diagnosis and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:10
S63	634	defect\$3 same (fail failure pass ) near4 rate and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:12
S64	274	defect\$3 same (fail failure pass ) near4 rate and characteristic and ( all every)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:21
S66	6	defect\$3 same (fail failure pass ) near4 rate and ( all every) and "716"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:23
S67	10	defect\$3 same (fail failure pass ) near4 rate and "716"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:24
S69	58	defect\$3 same (fail failure pass ) near4 rate and "702"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:25
S68	101	defect\$3 same (fail failure pass ) near4 rate and "714"/\$.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:25
S70	634	defect\$3 same (fail failure pass ) near4 rate and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:36



S65	3	defect\$3 same (fail failure pass ) near4 rate and characteristic and (all every) and "716"/\$.cls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:36
S71	72	defect\$3 same (fail failure pass ) near4 rate and characteristic and diagnosis	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:37
S72	134	defect\$3 same (fail failure pass ) near4 rate and characteristic and diagno\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:38
S75	176	defect\$3 same (fail failure pass ) near4 rate and characteristic same (detect\$3 locat\$3 local\$5) same( area location region level layer)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:40
S74	225	defect\$3 same (fail failure pass ) near4 rate and characteristic same (detect\$3 locat\$3 local\$5) and ( area location region level layer)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:40
S73	228	defect\$3 same (fail failure pass ) near4 rate and characteristic same (detect\$3 locat\$3 local\$5)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 15:40
S1	1316	test\$3 same defect\$3 same diagnosis	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/12 16:23
S79	0	diagnosis same ( fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:36
S78	0	diagnosis same ( failure fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:36
S77	0	defect\$3 same diagnosis same ( failure fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:36
S76	0	defect\$3 same diagnosis same ( failure fail) adj2 rate and detect\$3	IBM_TDB	OR	ON	2006/01/12 16:36
S81	1	detect\$3 and ( fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:43
S80	1	detect\$3 same ( fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:43

S83	2	defect\$3 and fail adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:44
S82	2	defect\$3 and ( fail) adj2 rate	IBM_TDB	OR	ON	2006/01/12 16:44
S84	17	fail adj rate same analy\$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/13 19:21
S85	74	fail adj rate and analy\$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/13 19:23
S86	178	fail adj rate and (diagnosis analy\$6 determin\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/13 19:28
S88	223	fail adj2 rate and (diagnosis analy\$6 determin\$3) and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/13 19:30
S87	451	fail adj2 rate and (diagnosis analy\$6 determin\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/13 19:30
S90	0	fail adj2 rate and (diagnosis analy\$6 determin\$3) and characteristic and defect\$3	DERWENT; IBM_TDB	OR	ON	2006/01/22 20:55
S89	49	fail adj2 rate and (diagnosis analy\$6 determin\$3) and characteristic and defect\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/22 20:55
S91	1	fail adj2 rate and (diagnosis analy\$6 determin\$3) and defect\$3	DERWENT; IBM_TDB	OR	ON	2006/01/22 20:56
S92	111	(defect\$3 fail) adj2 rate and (diagnosis analy\$6 determin\$3)	DERWENT; IBM_TDB	OR	ON	2006/01/22 21:04
S96	1	"5716856".PN.	USPAT; USOCR	OR	ON	2006/01/22 21:06
S95	1	"5240866".PN.	USPAT; USOCR	OR	ON	2006/01/22 21:06

S97	31	(defective fail) adj2 rate same (diagnosis analy\$6 determin\$3) and scan	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:08
S94	9	(defect\$3 fail) adj2 rate same (diagnosis analy\$6 determin\$3) and 716/1-18.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:08
S98	1943	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:15
S93	503	(defect\$3 fail) adj2 rate same (diagnosis analy\$6 determin\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:15
S100	1	"6470479".PN.	USPAT; USOCR	OR	ON	2006/01/22 21:20
S99	40	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3) and "716"/\$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:24
S101	564	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3) and identifying	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:25
S102	244	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3) and (structure cell) and (characteristic voltage current)and scan	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:26
S103	197	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3) and (structure cell) and (characteristic voltage current)and scan and (pass fail)	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:27
S104	181	(defect\$3 fail\$3) adj2 rate same (diagnosis analy\$6 determin\$3) and (structure cell) and (characteristic voltage current)and scan and (pass fail) and ( check\$3 flag\$4 sort\$3 identif\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/22 21:28
S105	759	(failure fail) near4 rate same defect	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:04
S108	186	S105 same S106	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:18

S11 0	1	S105 same S106 and ( physical) near3 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:25
S11 3	1	"6782348".PN.	USPAT; USOCR	OR	ON	2006/01/24 20:28
S11 2	1	"5726920".PN.	USPAT; USOCR	OR	ON	2006/01/24 20:28
S11 1	1	"5274434".PN.	USPAT; USOCR	OR	ON	2006/01/24 20:28
S10 9	24	S105 same S106 and (electrical physical) near3 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:30
S11 5	35	S105 and ( physical) near3 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:31
S11 4	0	S105 same ( physical) near3 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:31
S11 6	2	S105 and S106 and physical adj2 characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:33
S10 7	362	S105 and S106	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 20:33
S10 6	132144	(structure area region) same defect	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:06

S11 8	195	S105 same S117	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:07
S11 7	141599	(structure area region location) same defect	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:07
S11 9	115	S105 same S117 and characteristic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:08
S12 0	44	S105 same S117 and characteristic and analysis	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:14
S12 3	1	"4357100".PN.	USPAT; USOCR	OR	ON	2006/01/24 21:19
S12 2	1	"4344064".PN.	USPAT; USOCR	OR	ON	2006/01/24 21:19
S12 5	1	"4992729".PN.	USPAT; USOCR	OR	ON	2006/01/24 21:20
S12 4	1	"4437229".PN.	USPAT; USOCR	OR	ON	2006/01/24 21:20
S12 6	0	S105 same S117 and characteristic and analysis and scan\$3 and detect\$3 near5 defect\$3 adj ( location position)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:38
S12 7	9	S105 same S117 and characteristic and analysis and scan\$3 and ( locat\$3 detect\$3) with defect\$3 adj ( location position)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/24 21:39
S12 1	28	S105 same S117 and characteristic and analysis and scan\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/26 15:57


S12 8	2071	716/4.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/26 15:58
S13 1	36	716/4.ccls. and (fail failure defective) adj2 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:11
S13 0	0	716/4.ccls. and fail adj2 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:11
S12 9	2071	716/4.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:11
S13 2	33	716/4.ccls. and (fail failure defective) adj2 rate and (characteristic class\$8 type )	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:13
S13 3	32	716/4.ccls. and (fail failure defective) adj2 rate and (characteristic class\$8 type ) and (high low exceed pass fail)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:18
S13 4	1548	716/5.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:31
S13 5	17	716/5.ccls. and ( fail defect\$3 failure ) adj2 rate and ( characteristic type class\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:34

S13 6	17	716/5.ccls. and ( fail defect\$3 failure ) adj2 rate and ( characteristic type class\$8) and (pass fail exceed high low threshold pre-set pre-determined)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:43
S13 7	359	702/35.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:48
S13 8	11	702/35.ccls. and (failure fail defect\$3) adj2 rate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:54
S47	16079	analy\$4 same ( failure defect\$3 ) same detect\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 18:56
S13 9	0	(( failure fail defect\$3 )adj2 rate and (charateristic type class\$8) and ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) and ( at adj least minimum smallest) near5 defect). clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:00
S14 1	0	(( failure fail defect\$3 )adj2 rate and (charateristic type class\$8) and ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) and ( at adj least minimum smallest high low) near5 defect and analyz\$3).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:01
S14 0	0	(( failure fail defect\$3 )adj2 rate and (charateristic type class\$8) and ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) and ( at adj least minimum smallest) near5 defect and analyz\$3).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:01
S14 3	0	(( failure fail defect\$3 )adj2 rate same (charateristic type class\$8) same ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) same ( at adj least minimum smallest high low) same defect ).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:03

S14 2	0	(( failure fail defect\$3 )adj2 rate same (charateristic type class\$8) same ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) same ( at adj least minimum smallest high low) near5 defect ).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:03
S14 4	0	(( failure fail defect\$3 )adj2 rate same (charateristic type class\$8) same ( flag\$4 check\$3 mark\$3 record\$3 determin\$3) same ( at adj least minimum smallest high low)same defect ).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/27 19:04



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### 1 [Failure Modes and Effects Analysis \(FMEA\) - A Bibliography](#)

Program NASA Scientific and Technical Information  
July 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(988.69 KB\)](#) Additional Information: [full citation](#), [abstract](#)

Failure modes and effects analysis (FMEA) is a bottom-up analytical process that identifies process hazards, which helps managers understand vulnerabilities of systems, as well as assess and mitigate risk. It is one of several engineering tools and techniques available to program and project managers aimed at increasing the likelihood of safe and successful NASA programs and missions. This bibliography references 465 documents in the NASA STI Database that contain the major concepts, failure mod ...

### 2 [Fault Tree Analysis - A Bibliography](#)

Program NASA Scientific and Technical Information  
July 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(645.34 KB\)](#) Additional Information: [full citation](#), [abstract](#)

Fault tree analysis is a top-down approach to the identification of process hazards. It is touted as one of the best methods for systematically identifying and graphically displaying the many ways something can go wrong. This bibliography references 266 documents in the NASA STI Database that contain the major concepts, fault tree analysis, risk and probability theory, in the basic index or major subject terms. An abstract is included with most citations, followed by the applicable subject terms ...

### 3 [Level set and PDE methods for computer graphics](#)



David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker  
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH**

'04

**Publisher:** ACM Press

Full text available:  [pdf\(17.07 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

### 4 [I<sub>DDX</sub>-based test methods: A survey](#)



Sagar S. Sabade, Duncan M. Walker

April 2004 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**,

Volume 9 Issue 2

**Publisher:** ACM Press

Full text available: pdf(1.83 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Supply current measurement-based test is a valuable defect-based test method for semiconductor chips. Both static leakage current ( $I_{DDQ}$ ) and transient current ( $I_{DDT}$ ) based tests have the capability of detecting unique defects that improve the fault detection capacity of a test suite. Collectively these test methods are known as  $I_{DDX}$  tests. However, due to advances in the semiconductor manufacturing process, the future of these test methods is uncertain. This paper ...

**Keywords:**  $I_{DDQ}$ ,  $I_{DDT}$  test, VLSI testing, test

##### 5 Lfm2000 - Fifth NASA Langley Formal Methods Workshop

Holloway C. M.

June 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available: pdf(3.71 MB) Additional Information: [full citation](#), [abstract](#)

This is the proceedings of Lfm2000: Fifth NASA Langley Formal Methods Workshop. The workshop was held June 13-15, 2000, in Williamsburg, Virginia. See the web site <http://shemesh.larc.nasa.gov/lfm2000/> for complete information about the event.

##### 6 Special issue: AI in engineering



D. Sriram, R. Joobbani

April 1985 **ACM SIGART Bulletin**, Issue 92

**Publisher:** ACM Press

Full text available: pdf(8.79 MB) Additional Information: [full citation](#), [abstract](#)

The papers in this special issue were compiled from responses to the announcement in the July 1984 issue of the SIGART newsletter and notices posted over the ARPAnet. The interest being shown in this area is reflected in the sixty papers received from over six countries. About half the papers were received over the computer network.

##### 7 Fault Modeling and Simulation of Power Supply Voltage Transients in Digital Systems on a Chip

D. Barros Júnior, M. Rodriguez-Irago, M. B. Santos, I. C. Teixeira, F. Vargas, J. P. Teixeira

August 2005 **Journal of Electronic Testing: Theory and Applications**, Volume 21 Issue 4

**Publisher:** Kluwer Academic Publishers

Additional Information: [full citation](#), [abstract](#), [index terms](#)

This paper addresses the modeling and simulation of power supply voltage transients ( $\pm VDD$ ) in digital SoC (Systems on a Chip), namely their impact on SoC core's performance. The goal is to verify, in a cost-effective way, core's fault tolerance to this disturbance, aiming at EMI/EMC standard compliance. The two key parameters are the time slack and the defect size. A top-down approach is used to introduce an innovative fault inject ...

**Keywords:** EMI/EMC standard compliance, delay fault simulation, digital SoC, fault tolerance, intermittent faults modeling and simulation, power supply voltage transients

##### 8 Improved fault diagnosis in scan-based BIST via superposition




Ismet Bayraktaroglu, Alex Orailoglu

June 2000 **Proceedings of the 37th conference on Design automation**

**Publisher:** ACM Press

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### 1 [Nuclear power plant diagnostics in APL](#)



Alexander O. Skomorokhov

July 1991 **ACM SIGAPL APL Quote Quad , Proceedings of the international conference on APL '91 APL '91**, Volume 21 Issue 4

**Publisher:** ACM Press

Full text available:  pdf(903.20 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We are interested in the development of Nuclear Power Plant (NPP) diagnostic systems and other complex systems of data processing. There are some questions on the subject: How to build these systems easily? How to build them fast? How to build them at a low price? And how to build them to be user friendly? Today, from our point of view, in the area of Nuclear Power Plant diagnostics, there is only one answer to these questions: We must use APL.

### 2 [On a Statistical Fault Diagnosis Approach Enabling Fast Yield Ramp-Up](#)

Camelia Hora, Rene Segers, Stefan Eichenberger, Maurice Lousberg

August 2003 **Journal of Electronic Testing: Theory and Applications**, Volume 19 Issue 4

**Publisher:** Kluwer Academic Publishers

Full text available:  [Publisher Site](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The ability to achieve and maintain high yield levels is directly dependent on the capability to detect and analyze repetitive failure mechanisms. In this paper, an advanced statistical diagnosis method, using the final wafer test results, is presented. The new method builds on an existing full diagnosis method, and studies the adaptations needed to turn it into an effective and efficient on-line statistical diagnosis approach. The output of the new approach is a (limited) list of suspect loc ...

**Keywords:** fault diagnosis, yield improvement

### 3 [Formal Methods and Digital Systems Validation for Airborne Systems](#)

Rushby John

December 2003 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  pdf(1.35 MB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This report was prepared to supplement a forthcoming chapter on formal methods in the FAA Digital Systems Validation Handbook. Its purpose is to outline the technical basis for formal methods in computer science, to explain the use of formal methods in the specification and verification of software and hardware requirements, designs, and

implementations, to identify the benefits, weaknesses, and difficulties in applying these methods to digital systems used in critical applications, and to suggest ...

#### 4 Faults on its sleeve: amplifying software reliability testing



Dick Hamlet, Jeff Voas

July 1993 **ACM SIGSOFT Software Engineering Notes , Proceedings of the 1993 ACM SIGSOFT international symposium on Software testing and analysis ISSTA '93**, Volume 18 Issue 3

**Publisher:** ACM Press

Full text available: pdf(1.12 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Most of the effort that goes into improving the quality of software paradoxically does not lead to quantitative, measurable quality. Software developers and quality-assurance organizations spend a great deal of effort preventing, detecting, and removing "defects"—parts of software responsible for operational failure. But software quality can be measured only by statistical parameters like hazard rate and mean time to failure, measures whose connection with defects and with ...

**Keywords:** failure, fault, software reliability, testability

#### 5 Delay Defect Diagnosis Based Upon Statistical Timing Models : The First Step



Angela Krstic, Li-C. Wang, Kwang-Ting Cheng, Jing-Jia Liou, Magdy S. Abadir

March 2003 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 1 DATE '03**

**Publisher:** IEEE Computer Society

Full text available: pdf(179.10 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)



[Publisher Site](#)

This paper defines a new diagnosis problem for diagnosing delay defects based upon statistical timing models. We illustrate the differences between the delay defect diagnosis and traditional logic defect diagnosis. We propose different diagnosis algorithms, and evaluate their performance via statistical defect injection and statistical delay fault simulation. With a statistical timing analysis framework developed in the past, we demonstrate the new concepts in delay defect diagnosis, and discuss ...

#### 6 Test and diagnosis for complex designs: Enhancing diagnosis resolution for delay defects based upon statistical timing and statistical fault models



A. Krstic, L.-C. Wang, K.-T. Cheng, J.-J. Liou, T. M. Mak

June 2003 **Proceedings of the 40th conference on Design automation**

**Publisher:** ACM Press

Full text available: pdf(101.12 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper, we propose a new methodology for diagnosis of delay defects in the deep sub micron domain. The key difference between our diagnosis framework and other traditional diagnosis methods lies in our assumptions of the statistical circuit timing and the statistical delay defect size. Due to the statistical nature of the problem, achieving 100% diagnosis resolution cannot be guaranteed. To enhance diagnosis resolution, we propose a 3-phase diagnosis methodology. In the first phase, our g ...

**Keywords:** delay ATPG, delay fault diagnosis, statistical timing models

#### 7 Failure Analysis of VLSI by I\_DDQ Testing



Steven Haehn, T. S. Kalkur

December 1997 **Journal of Electronic Testing: Theory and Applications**, Volume 11 Issue 3


**Publisher:** Kluwer Academic Publishers

Full text available:

Additional Information: [full citation](#), [abstract](#), [index terms](#)



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### 1 [Failure Modes and Effects Analysis \(FMEA\) - A Bibliography](#)

Program NASA Scientific and Technical Information  
July 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(988.69 KB\)](#) Additional Information: [full citation](#), [abstract](#)

Failure modes and effects analysis (FMEA) is a bottom-up analytical process that identifies process hazards, which helps managers understand vulnerabilities of systems, as well as assess and mitigate risk. It is one of several engineering tools and techniques available to program and project managers aimed at increasing the likelihood of safe and successful NASA programs and missions. This bibliography references 465 documents in the NASA STI Database that contain the major concepts, failure mod ...

### 2 [Health Monitoring System Technology Assessments---Cost Benefits Analysis](#)

Kent Renee M., Murphy Dennis A.  
January 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(1.05 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The subject of sensor-based structural health monitoring is very diverse and encompasses a wide range of activities including initiatives and innovations involving the development of advanced sensor, signal processing, data analysis, and actuation and control technologies. In addition, it embraces the consideration of the availability of low-cost, high-quality contributing technologies, computational utilities, and hardware and software resources that enable the operational realization of robust ...

### 3 [How To Obtain Bathtub-Shaped Failure Rate Models From Normal Mixtures](#)

Jorge Navarro, Pedro J. Hernandez  
October 2004 **Probability in the Engineering and Informational Sciences**, Volume 18 Issue 4

**Publisher:** Cambridge University Press

Additional Information: [full citation](#), [abstract](#)

We obtain some techniques to study the shape of reliability functions (failure rate, mean residual life, etc.) by using the s-equilibrium distribution of a renewal process defined by Fagioli and Pellerey (Naval Res. Logist., 1993). We apply these techniques to study how to obtain distributions with bathtub shaped failure rate (BFR) from mixtures of two positive truncated normal distributions.

4 Improving reliability of large software systems

Christof Ebert, Thomas Liedtke, Ekkehard Baisch

August 1999 **Annals of Software Engineering**, Volume 8 Issue 1-4

**Publisher:** J. C. Baltzer AG, Science Publishers

Full text available:  [Publisher Site](#) Additional Information: [full citation](#), [abstract](#), [citations](#)

Improving field performance of telecommunication systems is the key objective of both telecom suppliers and operators, as an increasing amount of business critical systems worldwide are relying on dependable telecommunication. Early defect detection improves field performance in terms of reduced field failure rates and reduced intrinsic downtime. This paper describes an integrated approach to improve early defect detection and thus field reliability of telecommunication ...

5 High Fidelity Failure Analysis for a Composite Fuselage Section

Li Jian, Davila Carlos G., Chen Tzi-Kang

May 2001 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(1.09 MB\)](#) Additional Information: [full citation](#), [abstract](#)

A high fidelity delamination failure analysis was developed by combining a local failure analysis with a global full-scale finite element structural analysis to address strength and delamination failure in a single package. The methodology was demonstrated through a local three-dimensional pull-off failure analysis and a geometrically nonlinear structural analysis of a five-foot composite helicopter fuselage section. Pull-off specimens were used to identify potential debonding failure of co-cure ...

6 New directions for programmable devices: Soft error rate estimation and mitigation



for SRAM-based FPGAs

Ghazanfar Asadi, Mehdi B. Tahoori

February 2005 **Proceedings of the 2005 ACM/SIGDA 13th international symposium on Field-programmable gate arrays**

**Publisher:** ACM Press

Full text available:  [pdf\(241.45 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

FPGA-based designs are more susceptible to single-event upsets (SEUs) compared to ASIC designs. Soft error rate (SER) estimation is a crucial step in the design of soft error tolerant schemes to balance reliability, performance, and cost of the system. Previous techniques on FPGA SER estimation are based on time-consuming fault injection and simulation methods. In this paper, we present an analytical approach to estimate the failure rate of designs mapped into FPGAs. Experimental results show tha ...

**Keywords:** SRAM-based FPGA, error recovery, soft error rate estimation

7 Lfm2000 - Fifth NASA Langley Formal Methods Workshop

Holloway C. M.

June 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

Full text available:  [pdf\(3.71 MB\)](#) Additional Information: [full citation](#), [abstract](#)

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8 Advances in Fatigue and Fracture Mechanics Analyses for Metallic Aircraft Structures

Jr J. C. Newman

April 2000 Technical Report

**Publisher:** NASA Langley Technical Report Server

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### 4 [Formal Methods and Digital Systems Validation for Airborne Systems](#)

Rushby John  
December 2003 Technical Report

**Publisher:** NASA Langley Technical Report Server